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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,044

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Philippe Renaud

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02/14/2008

FREESCALE SEMICONDUCTOR, INC.

LAW DEPARTMENT

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AUSTIN, TX 78729

EXAMINER

MAIL ANH T

ART UNIT

PAPER NUMBER

2832

MAIL DATE

DELIVERY MODE

02/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/596,044

Applicant(s)

RENAUD ET AL.

Examiner

Anh T. Mai

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/88)
Paper No(s)/Mail Date 6/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim Objections

1. Claims 14-16 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims call for an electrical apparatus which do not further limit parent claim 1 of electrical circuit element.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 9-10, 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazawa et al. [EP0823714B1].

Yamazawa discloses:

- an elongate electrical conductor 6 coupled magnetically with at least one thin layer of magnetic material extending along at least a part of said conductor juxtaposed with the conductor, characterized in that the aspect ratio of the thickness of said layer of magnetic material to its lateral dimensions is between $0.035 \leq [t/w] \leq 0.35$ as recited in claim 1 of Yamazawa, which is between 0.1 and 0.5;

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- wherein said aspect ratio $0.035 \leq [t/w] \leq 0.35$ as recited in claim 1 of Yamazawa is less than 0.1;
- part of said conductor is disposed within said layer of magnetic material as shown in figure 1;

With respect to claims 9-10, the conductor is in spiral shape/meander between magnetic layers.

With respect to claims 14-16, the claims are seen as “intended use” of the inductor into a circuit apparatus of an integrated circuit (i.e., when the claim is directed to a circuit element, any recitation concerning the input or output signal of such circuit device or environment in which the circuit device is employed is not part of the inventive circuit device). Only structural and functional limitations are given patentable weight.

Further, limitations *inductance responsive means response to the inductance said electrical circuit element presents to a periodic current flowing in said conductor, electrical circuit element and said inductance responsive means are parts of a common integrated circuit* have been considered an inherent operational characteristics derived from the above structure, in this case (i.e., *when current applied to the claimed conductor*). Therefore, no patentable weight is given because the entire structure of the claimed invention is met by the teachings of the Yamazawa, by necessity the functional limitations of the claims will also inherently be met.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazawa in view of O'Reilly et al. [New Integrated Planar Magnetic Cores for Inductors and Transformers Fabricated in MCM- L Technology].

Yamazawa discloses the invention as claimed as cited above except for magnetic interconnections beside the conductors and connecting magnetic layers. O'Reilly discloses in figure 3a, 3b the magnetic plates below and above the windings with interconnections [through hole at center and outside to complete the magnetic path] see 3.2. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use magnetic interconnection as taught by O'Reilly to the device as disclosed by Yamazawa. The motivation would have been to provide closed magnetic cores. Therefore, it would have been obvious to combine O'Reilly with Yamazawa.

With respect to claim 4, Yamazawa discloses the claimed invention except for plurality of magnetic layers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have additional magnetic layer to the magnetic layer as disclosed by Yamazawa, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With respect to claim 5, Yamazawa recites in claim 1, the aspect ratio is $0.035 \leq [t/w] \leq 0.35$ which is less than 0.1.

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5. Claims 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazawa in view of Forbes et al. [2002/0005565].

Yamazawa discloses the invention as claimed as cited above except for the magnetic material is ferromagnetic. Forbes discloses a high permeability ferromagnetic material is used to provide a large inductance in a small volume [0020]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to ferromagnetic material as taught by Forbes to the device as disclosed by Yamazawa for the purpose above.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazawa in view of Arakawa et al. [JP59144105].

Yamazawa discloses the invention as claimed as cited above except for magnetic material is composite material that comprises particles of magnetic material densely packed in substantially non-magnetic, electrically resistive matrix. Arakawa discloses amorphous magnetic substance of ferrite consisting of iron, cobalt and organic resin [abstract and constitution]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use ferrite magnetic as taught by Arakawa to the device as disclosed by Yamazawa. The motivation would have been to utilize alternative materials that are available to perform the mechanical/electrical requirement for the device. Therefore, it would have been obvious to combine Arakawa with Yamazawa.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 571-272-1995. The examiner can normally be reached on 5/4/9 Schedule.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Anh T. Mai/
Primary Examiner, Art Unit 2832

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